

CLAIMS

1. A vacuum pump comprising a continuous ignition source for igniting
fuel within a pumped fluid to regulate the concentration of the fuel in
fluid exhaust from the pump.
2. A pump according to Claim 1, wherein the continuous ignition source is
an electric discharge device.
3. A pump according to Claim 1 or Claim 2, wherein the continuous
ignition source is a spark plug.
4. A pump according to Claim 1, wherein the continuous ignition source is
a heated filament.
5. A pump according to Claim 1, wherein the continuous ignition source is
a plasma.
6. A pump according to any preceding claim in the form of a multi-stage
vacuum pump, the continuous ignition source being located between
adjacent stages of the pump.
7. A multi-stage vacuum pump comprising, between adjacent stages of
the pump, a continuous ignition source for igniting a fuel within a
pumped fluid.
8. A pump according to Claim 6 or Claim 7, wherein the continuous
ignition source is located within a combustion chamber located
between stages of the pump.

- 8 -

9. A pump according to any of Claims 6 to 8, comprising a plurality of continuous ignition sources each located between respective adjacent stages of the pump.
- 5 10. A pump according to any preceding claim, wherein the pressure of pumped fluid at the ignition source or each respective source is in the range from 50 to 950 mbar.
- 10 11. A pump according to any preceding claim, comprising means for injecting into the pump a fluid stream comprising an oxidant for assisting in igniting the fuel.
12. A pump according to Claim 11, wherein the oxidant is one of oxygen and CDA.
- 15 13. A pump according to Claim 11 or Claim 12, wherein the injected fluid stream also comprises a fuel for increasing the likelihood of ignition occurring within the pump.
- 20 14. A pump according to any of Claims 11 to 13, wherein the injection means is arranged to inject the fluid stream between adjacent stages of the pump.
- 25 15. A pump according to any of Claims 11 to 14 when dependent from Claim 8, wherein the fluid stream is injected into the combustion chamber.
- 30 16. A method of treating a fluid containing a fuel, the method comprising conveying the fluid to a vacuum pump and, within the pump, igniting the fuel to regulate the concentration of the fuel in fluid exhaust from the pump.